

Oregon and Utah

Cheat Takes Over

JUST AS there is honor among thieves, so there is solidarity and co-operation among plant and animal pests. Where one pest is stopped by natural barriers, another arrives to breach the same wall by a new approach. In the end every region and every resource get their quota of uninvited ecological guests.

Thus the English sparrow, rendered innocuous by the shrinkage in horses, was succeeded by the starling, who thrives in the wake of tractors. The chestnut blight, which had no passport beyond the west boundary of chestnuts, is being followed by the Dutch elm disease, with every chance of spreading to the west boundary of elms. The white-pine blister rust, stopped in its westward march by the treeless plains, effected a new landing via the back door, and is now romping down the Rockies from Idaho toward California.

Ecological stowaways began to arrive with the earliest settlements. The Swedish botanist, Peter Kalm, found most of the European weeds established in New Jersey and New York as early as 1750. They spread as rapidly as the settler's plow could prepare a suitable seedbed.

Others arrived later, from the West, and found

thousands of square miles of ready-made seedbed prepared by the trampling hoofs of range livestock. In such cases the spread was often so rapid as to escape recording; one simply woke up one fine spring to find the range dominated by a new weed. A notable instance was the invasion of the intermountain and northwestern foothills by downy chess or cheat grass (*Bromus tectorum*).

Lest you gain too optimistic an impression of this new ingredient of the melting pot, let me say that cheat is not a grass in the sense of forming a live sod. It is an annual weed of the grass family, like foxtail or crabgrass, dying each fall and reseeding that fall or the next spring. In Europe its habitat is the decaying straw of thatched roofs. The Latin word for roof is *tectum*, hence the label 'Brome of the roofs.' A plant that can make a living on the roof of a house can also thrive on this rich but arid roof of the continent.

Today the honey-colored hills that flank the northwestern mountains derive their hue not from the rich and useful bunchgrass and wheatgrass which once covered them, but from the inferior cheat which has replaced these native grasses. The motorist who exclaims about the flowing contours that lead his eye upward to far summits is unaware of this substitution. It does not occur to him that hills, too, cover ruined complexions with ecological face powder.

The cause of the substitution is overgrazing. When the too-great herds and flocks chewed and trampled the hide off the foothills, something had to cover the raw eroding earth. Cheat did.

Cheat grows in dense stands, and each stem bears a

mass of prickly awns which render the mature plant inedible to stock. To appreciate the predicament of a cow trying to eat mature cheat, try walking through it in low shoes. All field workers in cheat country wear high boots. Nylons are here relegated to running boards and concrete sidewalks.

These prickly awns cover the autumn hills with a yellow blanket as inflammable as cotton-wool. It is impossible fully to protect cheat country from fire. As a consequence, the remnants of good browse plants, such as sagebrush and bitterbrush, are being burned back to higher altitudes, where they are less useful as winter forage. The lower fringes of pine timber, needed as winter cover for deer and birds, are likewise being singed back to higher levels.

To a summer tourist, the burning of a few bushes off the foothills may seem a minor loss. He is unaware that, in winter, snow excludes both livestock and game from the higher mountains. Livestock can be fed on valley ranches, but deer and elk must find food in the foothills or starve. The habitable wintering belt is narrow, and the further north one goes, the greater is the disparity between the area of habitable winter range and the area of summer range. Hence these scattering foothill clumps of bitterbrush, sage, and oak, now fast shrinking under the onslaught of cheat fires, are the key to wildlife survival in the whole region. Besides, these scattered bushes often harbor, under their mechanical protection, remnants of native perennial grasses. When the bushes are burned off, these grass remnants succumb to livestock. While the sportsmen and stockmen wrangle over who should move first in easing the burden on the winter

range, cheat grass is leaving less and less winter range to wrangle about.

Cheat gives rise to many minor irritations, most of them less important, perhaps, than starving deer or cheat-sores in a cow's mouth, but still worth mentioning. Cheat invades old alfalfa fields and degrades the hay. It blockades newly hatched ducklings from making the vital trek from upland nest to lowland water. It invades the lower fringe of lumber areas, where it chokes out seedling pines and threatens older reproduction with the danger of quick fire.

I experienced a minor irritation myself when I arrived at a 'port of entry' on the northern California border, where my car and baggage were searched by a quarantine officer. He explained politely that California welcomes tourists, but that she must make sure their baggage harbors no plant or animal pests. I asked him what pests. He recited a long list of prospective garden and orchard afflictions, but he did not mention the yellow blanket of cheat, which already extended from his feet to the far hills in every direction.

As is true of the carp, the starling, and the Russian thistle, the cheat-afflicted regions make a virtue of necessity and find the invader useful. Newly sprouted cheat is good forage while it lasts; like as not the lamb chop you ate for lunch was nurtured on cheat during the tender days of spring. Cheat reduces the erosion that would otherwise follow the overgrazing that admitted cheat. (This ecological ring-around-the-rosy merits long thought.)

I listened carefully for clues whether the West has accepted cheat as a necessary evil, to be lived with

until kingdom come, or whether it regards cheat as a challenge to rectify its past errors in land-use. I found the hopeless attitude almost universal. There is, as yet, no sense of pride in the husbandry of wild plants and animals, no sense of shame in the proprietorship of a sick landscape. We tilt windmills in behalf of conservation in convention halls and editorial offices, but on the back forty we disclaim even owning a lance.

Manitoba

Clandeboyne

EDUCATION, I fear, is learning to see one thing by going blind to another.

One thing most of us have gone blind to is the quality of marshes. I am reminded of this when, as a special favor, I take a visitor to Clandeboyne, only to find that, to him, it is merely lonelier to look upon, and stickier to navigate, than other boggy places.

This is strange, for any pelican, duckhawk, godwit, or western grebe is aware that Clandeboyne is a marsh apart. Why else do they seek it out in preference to other marshes? Why else do they resent my intrusion within its precincts not as mere trespass, but as some kind of cosmic impropriety?

I think the secret is this: Clandeboyne is a marsh

apart, not only in space, but in time. Only the uncritical consumers of hand-me-down history suppose that 1941 arrived simultaneously in all marshes. The birds know better. Let a squadron of southbound pelicans but feel a lift of prairie breeze over Clandeboyne, and they sense at once that here is a landing in the geological past, a refuge from that most relentless of aggressors, the future. With queer antediluvian grunts they set wing, descending in majestic spirals to the welcoming wastes of a bygone age.

Other refugees are already there, each accepting in his own fashion his respite from the march of time. Forster's terns, like troops of happy children, scream over the mud-flats as if the first cold melt from the retreating ice sheet were shivering the spines of their minnowy prey. A file of sandhill cranes bugles defiance of whatever it is that cranes distrust and fear. A flotilla of swans rides the bay in quiet dignity, bemoaning the evanescence of swanly things. From the tip of a storm-wracked cottonwood, where the marsh discharges into the big lake, a peregrine stoops playfully at passing fowl. He is gorged with duck meat, but it amuses him to terrorize the squealing teals. This, too, was his after-dinner sport in the days when Lake Agassiz covered the prairies.

It is easy to classify the attitudes of these wildlings, for each wears his heart on his sleeve. But there is one refugee in Clandeboyne whose mind I cannot read, for he tolerates no truck with human intruders. Let other birds spill easy confidence to upstarts in overalls, but not the western grebe! Stalk carefully as I will to the bordering reeds, all I get to see is a flash of silver as he sinks, soundless, into the bay. And then,